



COMMONWEALTH OF VIRGINIA
COUNTY OF HENRICO

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Water Docket
Environmental Protection Agency
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Washington, DC 20460

Submitted by Email (vabaytmdl@dc.virginia.gov)

Department of Conservation and Recreation
Commonwealth of Virginia
203 Governor Street
Richmond, VA 23219

Re: EPA Water Docket ID No. EPA-R03-OW-2010-0736, Draft Total Maximum Daily Load ("TMDL") for the Chesapeake Bay; and Virginia Chesapeake Bay Watershed Implementation Plan ("WIP")

To Whom It May Concern:

Thank you for the opportunity to comment on EPA's Draft TMDL for the Chesapeake Bay and Virginia's WIP. The County of Henrico, Virginia (the "County"), understands and appreciates that the Chesapeake Bay is a nationally important natural resource. It fully supports efforts to improve the Bay's water quality. However, the County is concerned that the allocations and pollution limits ("backstops") established by EPA in its draft TMDL are unrealistic and unachievable, especially in the time frame required by the TMDL. Unrealistic goals will not result in sustained improvement of the Bay's water quality. In light of these general concerns, the County offers the following comments on EPA's TMDL and Virginia's WIP:

I. DESCRIPTION OF HENRICO COUNTY

Henrico County is a 245 square mile county located near Richmond, Virginia. The County owns and operates a municipal wastewater treatment plant ("WWTP") that cleans and discharges highly-treated wastewater within the Chesapeake Bay watershed pursuant to a state-issued National Pollutant Discharge Elimination System ("NPDES") permit. Henrico's WWTP discharges into the James River. The County also owns and operates a municipal separate storm sewer system ("MS4") within the Chesapeake Bay watershed. This drainage system conveys and discharges stormwater pursuant to a state-issued National Pollutant Discharge Elimination System ("NPDES") permit. To the extent that our MS4 conveys nutrients and sediments covered

by the Draft TMDL, those pollutants originate predominantly from air deposition, fertilizer use or other third party sources, and the MS4 is simply a conduit.

The County's WWTP is in the process of being upgraded with nutrient removal technology. The current project consists of installing two new Enhanced Nutrient Removal basins and converting two existing Biological Nutrient Removal Basins to Enhanced Nutrient Removal Basins. This project will effectively increase ENR capacity to ensure continuous compliance with an annual average total nitrogen concentration of 5.0 mg/L. The total capital cost for this project (Phase 7) is approximately \$20,186,000. Previous projects and plant expansions (2000 through 2004) provided nutrient removal facilities to achieve compliance with an annual average total phosphorus concentration of 0.5 mg/L and an annual average total nitrogen concentration of 8.0 mg/L. Capital cost for these projects was approximately \$54,000,000. Capital costs do not include design and construction management fees. Additionally, the Operational and Maintenance costs associated with the facilities move from an "ammonia removal" facility to Enhanced Nutrient Removal is conservatively estimated to cost the County an additional \$1,500,000/year moving forward.

II. CONCERNS RELATED TO EPA'S DRAFT TMDL

The County supports and fully adopts the comments submitted by the Virginia Municipal Stormwater Association, Inc. ("VAMSA") and the Virginia Association of Municipal Wastewater Agencies, Inc. ("VAMWA"). The County is a member of both organizations. VAMSA's and VAMWA's comments are hereby incorporated by reference as if fully set forth herein, including all attachments and documents incorporated into those comments.

As a matter of first principles, the County is concerned with EPA's decision in the draft TMDL to reject Virginia's Watershed Implementation Plan (WIP) and impose "backstops." EPA has no authority under the Clean Water Act (CWA) to reject a state's implementation plan. If EPA elects to preserve this decision in its final TMDL, it will have acted beyond the scope of its legal authority.

In addition to the scope of EPA's authority, the County would like to highlight several significant concerns with EPA's draft Chesapeake Bay TMDL and Virginia's WIP.

A. LACK OF TRANSPARENCY IN THE REGULATORY PROCESS

The County has significant concerns with the transparency of EPA's Draft TMDL and Virginia's WIP regulatory process. Despite the enormous size and complexity of the TMDL documents released on Sept. 24, the socio-economic consequences of the proposed allocations, and the arbitrary nature of EPA's decision to establish the TMDLs by Dec 31, 2010 when it could have given the public and interested stakeholders additional time to comment had it taken advantage of the May 2010 deadline in the consent decree, the County does not have sufficient time to adequately review and respond to the TMDLs in detail. The County will defend vigorously any claim of waiver due to failure to submit comments to the TMDLs on the basis that insufficient time was given to adequately respond.

The manner in which EPA incorporated computer modeling into its decision-making process also resulted in less than acceptable regulatory transparency. The Phase 5.3 Chesapeake Bay Watershed Model computer model (CBWM) is enormous, and has been described as one of the world's largest environmental models. The 64,000 square-mile watershed spans roughly one-quarter of the East coast of the United States. However, CBWM is only a component in the larger Chesapeake Bay Program suite of models. Four major modeling components are used to develop the input data for CBWM. A substantial amount of nitrogen is deposited from the atmosphere into the Bay, and land use changes have significant implications for nutrient and sediment loading. All of this data is pre-processed in antecedent models, and then aggregated in a tool called the "Scenario Builder."

The Scenario Builder was supposed to be available to the modeling community as part of the Chesapeake Bay Modeling Program, but has not yet been released outside EPA. Absent the Scenario Builder, modelers must rely on EPA to process the input data to CBWM, and cannot improve the model with local data. In fact, all of the 'modeling' that has been done by the State of Virginia to date is in essence 'post-processing' of EPA modeling results rather than independent modeling.

To date EPA has not been able to document the tremendous amount of input data required for the TMDL modeling effort. The Virginia Department of Conservation and Recreation requested mapping from the Chesapeake Bay Program Office (CBPO) that would indicate locations of various urban land use categories (such as Impervious High Intensity, Impervious Low Intensity, Pervious High Intensity, and Pervious Low Intensity) used in the Phase 5.3 TMDL modeling. CBPO indicated that significant effort would be required to produce such mapping. Likewise, there is very little documentation that would allow modelers outside EPA to ascertain how the data was collected and synthesized, which makes working with CBWM a highly unreliable proposition at the state and local levels. More thorough disclosure of documentation is sorely needed, not merely on the model, but just as importantly on the data. The County will defend vigorously any claim of waiver due to failure to submit comments to the TMDLs on the basis that EPA withheld pertinent information to evaluate the program.

The County is also concerned with EPA's lack of transparency regarding its lack of disclosure and analysis of costs related to urban stormwater. We understand that in other EPA documents urban stormwater costs for the Bay TMDL have been estimated at an annual cost of \$7.9 billion. Similarly, we understand that the Center for Watershed Protection has reported costs on the order of \$88,000 per acre for urban retrofits. To translate these types of costs estimates to the household level, last month a national engineering firm reported to the Virginia Municipal Stormwater Association ("VAMSA") that EPA's Draft TMDL's costs may be on the order of \$700 to \$1,800 per household per year, for urban stormwater management alone, during the 15-year implementation period. For Henrico County alone, these costs translate to \$848 million to \$1.25 billion over the implementation period, or between \$520/year to \$1,310/year per household. *See* CDM Technical Memorandum dated October 27, 2010 (attached hereto and fully incorporated herein). Obviously, costs in that range are extremely high if not completely unaffordable.

B. EPA'S TMDL MODEL APPEARS TO BE SERIOUSLY FLAWED

i. The Phase 5.3 CBWM has not been calibrated

EPA claims that the Phase 5.3 CBWM model has been calibrated. Yet 920 square miles of urbanized land have been erroneously entered as 'forest' in the model. A recalibration effort was expected to begin in October 2010, but will be too late to be adequately addressed by the 31 December 2010 mandated deadline for final publication of the Chesapeake Bay TMDL. EPA has promoted an "adaptive management approach" in developing this TMDL, thereby creating many moving goalpost situations. There are inherent problems with any calibration effort, and CBWM is no exception. There are many ways to tweak input variables in a complicated model to make the output approximate a series of observed data—a phenomenon known as 'equifinality'—and CBWM has a massive amount of input variables.

One indication of calibration problems is with sediment loading computations. CBWM cannot adequately match observed data for sediment loading, which held up the release of working sediment limits to the states until a month before their Watershed Implementation Plans (WIPs) were due. To accommodate the schedule, EPA adopted a "pucker factor" approach—to sidestep this problem with the model. If the Phase 5.3 model was adequately calibrated, sediment computations could be handled in a straightforward manner.

Many of the TMDL limits are targeted to pollutant reduction levels that are considerably less than the margin of uncertainty in the modeling process itself. Dr. Kathy Boomer of the Smithsonian Institute has conducted specific research and concluded that the margin of uncertainty in the TMDL models was much greater than the reductions being sought in pollutant loading. Dr. Ken Reckhow of Duke University (who chaired the Chesapeake Bay TMDL Review Committee for the National Academy) has repeatedly cautioned regulators against reporting modeling results without stipulating the uncertainty. Dr. Reckhow notes that TMDL prediction uncertainty is high, and Chesapeake Bay modelers have had issues with political decision makers being able to understand uncertainty. However, Section 5 of the Draft TMDL states:

"Models have some inherent uncertainty. Because of the amount of data and resources taken to develop, calibrate, and verify the accuracy of the Bay models, the uncertainty of the suite of models is minimized."

Quite the opposite is true—the amount of data and complexity of the system work to increase the uncertainty, particularly when the source and content of the data have not been disclosed. Such a statement cannot be substantiated, and certainly not with vague assurances that the model is based on "good" or "strong" science.

It is important to note that the mathematical equation for a TMDL is:

**TMDL = Sum of Wasteload Allocations + Sum of Load
Allocations + Margin of Safety**

and the margin of safety is supposed to account for uncertainty in ensuring that the TMDL is effective, but there are errors and uncertainties *in the computation of the load allocations themselves*.

There are very few (perhaps only three or four) knowledgeable technical persons with meaningful CBWM modeling experience in Virginia. For a model that will be used as the basis for billions of dollars in regulatory mandates, the technical community is lacking the checking and validation that comes from widespread use. There is no significant bug reporting and code fixing occurring, and what little modeling is being performed is being done with data that has been distributed from EPA without enough documentation to check its validity. Other computer models, such as the EPA's own Storm Water Management Model (SWMM), have many years of active, widespread use, and debugging and code fixes occur continuously. The user community helps drive improvements that make SWMM a very well understood and reliable model. Conversely, CBWM is essentially an untested and unapplied model in 2010. The development of CBWM is undoubtedly an ambitious and worthwhile undertaking, but reasonable time has to be given to grow and mature CBWM to the point that it can be reliably used to justify billions of dollars of expense.

ii. The Phase 5.3 CBWM does not produce reliable modeling results

EPA distributes the CBWM computer program in un-compiled form, meaning that in order to run the model users must obtain a FORTRAN compiler and generate the executable computer programs from the source code. However there is a known and still unresolved problem with CBWM producing different results when compiled on different computers. Identical input data was run on different computers in August 2010 for the James, York, and Rappahannock Rivers, and CBWM produced significantly different results—with variations as high as 36% in the answers. The reliability of CBWM cannot be corroborated until repeatable results can be produced. EPA is working on this problem, but its self-imposed TMDL schedule demands do not allow the time required to produce reliable and scientifically verifiable models and modeling results.

iii. EPA is using the CBWM on a scale that is beyond its predictive capability

Due to the 64,000 square-mile extent of CBWM, there is an inherent problem of scale when addressing BMPs. CBWM is better suited for overarching computations on larger scales, such as evaluating the effects of fertilizer applications on large segments of the Bay watershed, than it is in evaluating the effects of a particular BMP or group of BMPs on specific sites. EPA staff has acknowledged that the effects of individual, site-specific BMPs cannot be directly addressed in CBWM. Because the model is constructed on such a large scale, numerical effects of BMPs are lumped or aggregated in the modeling input data. This scale problem makes it very difficult for local governments to evaluate the feasibility of costly BMPs such as filtration devices and detention and retention basins that will have to be constructed to achieve water

quality improvements. A single retention basin can easily cost millions of dollars, yet its effects cannot be directly isolated and evaluated in CBWM.

iv. Existing imperviousness is underestimated in the CBWM

The Phase 5.3 CBWM model was prepared based on satellite photography. Early indications from four Virginia municipalities are that the use of satellite imagery has produced estimates of watershed imperviousness that are approximately 20 percent too low, which has significant implications for the amount of pollution that runs off each watershed. Localities, including Henrico County, have better imperviousness data in their Geographic Information Systems, but the TMDL development schedule did not allow time for EPA modelers to coordinate and collect this information from the localities. The implication is that if existing watershed imperviousness is underrepresented in CBWM, then so will be the existing pollution from urbanized areas. This inaccuracy could easily result in computed TMDL limits that are unattainable because in order to satisfy their “pollution diet,” municipalities will have to reduce pollution based on modeling data that assumes they are substantially (20 percent) less impervious than they actually are. In other words, if their pollution diet starts by assuming that they have 20 percent less pollution-producing impervious cover than they actually have, then in order to meet their TMDL limits they would have to reduce *all* pollution from that 20 percent *plus* the reductions mandated by the TMDL—which are themselves very difficult to achieve. Refusal to accept more accurate data as the price of meeting an unrealistic deadline is a recipe for failure as well as a violation of the spirit, if not the letter, of the Administrative Process Act.

v. There is no groundwater component in the CBWM

The absence of a groundwater component to the model is significant because groundwater transport of nutrients is a major source of pollution in the Bay. Ironically, many of the Best Management Practices (BMPs) that will be used to satisfy the TMDLs are based on removal of pollutants by infiltration, which is not addressed in the modeling. This lack of a groundwater component in CBWM means that pollutants that are routed into infiltration BMPs magically disappear from the computational universe—when in reality they are deposited into groundwater that eventually flows into the Bay.

C. EPA’S ALLOCATIONS ARE ARBITRARY AND CAPRICIOUS

EPA determined its TMDL allocations in complete reliance on its computer model. For the reasons discussed above, as well as those addressed by VAMWA and VAMSA in their comments, that modeling system appears to be fundamentally flawed. As such, absent additional verification and study, any allocations derived from that modeling system are not defensible and reasonable.

D. EPA’S PROPOSED ALLOCATIONS FOR THE JAMES RIVER ARE ARBITRARY AND CAPRICIOUS

As the Chesapeake Bay Program long ago determined, the James River does not meaningfully influence mid-Bay water quality and any regulation of James River nutrient discharges should occur only for local water quality protection. Locally, the applicable water quality standard is chlorophyll standard adopted by Virginia in 2005 and approved by EPA. However, the appropriateness of that standard is questioned in part due to EPA's unilateral changes to the computer model it uses to judge the adequacy of Virginia's actions. In fact, Virginia has determined in its WIP (September 2010) at pages 14-15 that the chlorophyll standard is faulty and that "additional scientific study is needed to provide a more precise and scientifically defensible basis for setting final nutrient allocations." The County agrees with this finding and determination by Virginia, and it also supports Virginia's "Four Part James River Strategy" at pages 15-17 of the WIP to address these major technical problems.

EPA's decision to base the James River allocations on attainment of the numeric chlorophyll-a standards rather than attainment of the Bay-wide numeric dissolved oxygen standards is flawed. An analysis of the data shows that the Water Quality Model is poorly calibrated against the chlorophyll-a standard. Consequently, the model results used to derive the James River allocations do not accurately predict the load reductions needed to attain compliance with the James River chlorophyll-a standards. EPA compounded the consequences of using a poorly calibrated model when it used a one percent chlorophyll-a standard attainment rate to derive the James River allocations. The model results show that attainment rates between 96 and 99 percent result in changes to in-stream Chlorophyll-a concentrations of between 1 and 2 ug/l, which is well within the 1-4 ug/l margin of error in the EPA-approved Chlorophyll-a test method. The one percent attainment rate used in this case is inconsistent with attainment rates used or approved by EPA in other TMDLs. EPA has failed to offer any justification for its use of a one percent attainment rate in this case, particularly in light of its use of a poorly calibrated model and the high error margin of the relevant testing protocol. EPA has a certain amount of discretion in determining when models are sufficiently calibrated and in establishing attainment rates. However, EPA abused its discretion when it used a poorly calibrated model and an unreasonably low attainment rate to establish allocations designed to achieve changes in in-stream Chlorophyll-a concentrations that have significant economic consequences and no quantifiable water quality benefit. Analysis shows that EPA's James River allocations would impose billions of dollars of additional costs within the James watershed while achieving reductions in in-stream Chlorophyll-a concentrations that are within the margin of error of the testing method.

EPA's own calculations and charts show that the James River has a minimal affect on Bay water quality. Thus, the most rigid of the TMDLs is placed on the body of water that has the least impact on the bay. The James River TMDLs are an example of arbitrary decision-making and the EPA overreaching its authority as to the Bay clean-up project.

E. EPA'S BACKSTOPS ARE ARBITRARY AND CAPRICIOUS AND BEYOND THE SCOPE OF EPA'S AUTHORITY

EPA decided to reject Virginia's approach to implementing the TMDL and instead impose stringent "backstops" or cuts. EPA is considering these potential cuts under a new EPA

guidance letter on “reasonable assurance” and EPA’s initial view that Virginia has given inadequate assurance that nonpoint sources (*e.g.*, agricultural sources) will reduce their nutrient loads according to plan. We disagree with EPA’s initial view given Virginia’s good track record of achieving point-source reductions. We also question whether EPA’s unpromulgated reasonable assurance guidance is even legal given that it operates as if EPA’s previously proposed (but withdrawn) reasonable assurance regulation had actually been put into effect. As previously explained, EPA also does not have any CWA authority to reject Virginia’s proposed WIP.

Regarding EPA’s Virginia WWTP backstops, the County strongly opposes EPA’s inequitable proposal to transfer more burden to our WWTP and similar point sources. We object to EPA’s currently proposed “backstops” (4 mg/L TN and 0.3 mg/L TP at design flow for WWTPs) in lieu of the WLAs in the Virginia Regulations, and we also object to the threatened but not applied “full backstops” that would decrease the concentration basis further (3 mg/L TN and 0.1 mg/L TP at design flow) and even the flow basis to past flow levels (2007 to 2009 average flow rather than design flow).

What is distinctly missing from EPA’s Draft TMDL is any appreciation for the major commitments very recently made by EPA and Virginia (the State’s adoption and EPA’s approval of the Virginia Regulations in 2005 and 2007) and the major financial commitments that local governments, including Henrico County, have made to implement those requirements including incurring significant public debt (typically with 20 to 30 year repayment terms) and constructing major new facilities (typically built to last 20 to 30 years). Since adoption of the current standard in 2005, local governments designed and constructed the required new facilities with long-term debt, which now must be repaid by the public over the next 20 to 30 years. As explained above, since 2005, the County has completed, or in the process of completing, over \$20 million in improvements to its WWTP. The County objects to the waste inherent in EPA’s proposed override of the Virginia Regulations and Virginia WIP through the Draft TMDL and its elements that relate to our WLAs.

Regarding EPA’s proposed backstop for MS4s, EPA’s Draft TMDL fails to adequately consider a critical aspect relating to whether or not its TMDL will be successful for Bay restoration, namely cost as well as cost-effectiveness and cost-benefit. An expert national engineering firm has estimated the cost to Virginia’s MS4 localities to restore 50% of existing untreated impervious area over a 15 year term (the level and manner of effort assumed by EPA in its Draft TMDL). The low estimated *per household, annual* cost is \$678 in 2011 and possibly as high as \$1,717 in 2025. Further, these staggering figures are only for the specific retrofits considered in EPA’s plan and thus omit other significant existing and future costs for other MS4 permit obligations (such as under existing permits and potentially increased requirements under future permits and other TMDLs) and for general maintenance of the existing stormwater system. Furthermore, these costs do not include costs for land acquisition, which would inevitably be required for the property needed to construct the necessary retrofits and BMPs.

F. EPA DOES NOT HAVE THE AUTHORITY TO ESTABLISH A DEADLINE IN THE TMDL FOR ACHIEVING THE LOAD REDUCTIONS

The Clean Water Act and EPA's regulations do not give it the authority to establish a 2025 compliance deadline in the TMDLs.

Of all the source sectors covered by the TMDLs, none is affected more by the 2025 deadline than the urban runoff sector because much of the difficulty and cost of achieving the urban runoff load reductions is associated with retrofits independent of redevelopment. Historic re-development rates in the Henrico County region fall far short of those that would be needed to achieve the load reductions without forcing the county to acquire the easements needed for the retrofits and assuming responsibility for retrofit installation and maintenance.

III. COMMENTS RELATED TO VIRGINIA'S WIP

Henrico County adopts the WIP comments submitted VAMWA and VAMSA on Virginia's WIP, and incorporates those comments by reference as if fully set forth herein. Additionally, the County will defend vigorously any claim of waiver due to failure to submit comments to the WIP on the basis that insufficient time was given to adequately respond.

The County appreciates Virginia's efforts to incorporate flexibility and cost effectiveness into the draft WIP; however, the James River basin urban runoff sector allocations in the draft WIP would impose massive financial costs on the County's MS4 system in an effort to reduce phosphorus loads below the larger backstop phosphorus allocation proposed by EPA (an average 54% percent phosphorus reduction). Even at the EPA allocation, Henrico County would still have to expend an estimated \$848 million to \$1.25 billion over the implementation period, plus the cost of land acquisition, to achieve the backstop sector allocation.

Henrico County supports Virginia's expansion of its nutrient trading program in the WIP. However, the draft WIP's reliance on the availability of credits from the point source and agriculture sectors to assist the MS4s in attaining their sector allocations may be misplaced. There is no assurance that the credits will be generated when and where needed. The credits would be generated from excess flow capacity and, therefore, would be available to the MS4s on a temporary basis. The reductions that would be required of urban runoff with the draft WIP allocations are so great that the demand for credits could exceed the supply, thus driving up their cost and limiting their availability to the Localities, particularly if the Localities are forced to compete with private developers for the credits. The effect of this plan will result in the involuntary redistribution of the resources of the sector that contributes least to pollution in the Bay, urban stormwater runoff, to that sector that contributes the greatest amount of pollution, agriculture.

Both the Virginia WIP and EPA "backstop" allocations for the urban runoff sector are beyond a level that is practicable of attainment. It is impossible to predict the full extent of the socio-economic consequences of attempting to undertake an effort of this magnitude because such an undertaking has never been tried before. However, we can state with confidence that

there is no assurance that the load reductions that would be required to achieve the backstop allocations can be accomplished by EPA's 2025 deadline, and that, on a pound-for-pound basis, the cost would be totally out of portion to any water quality benefit. It is estimated that it would cost the County approximately \$848 million to \$1.25 billion to reduce phosphorus loads to the levels needed to comply with the backstop allocations. *See* CDM Technical Memorandum.

Further, this cost estimate does not reflect the added cost of acquiring the land needed for the installation of BMPs and on-going maintenance of the BMPs. *Id.* Henrico County owns or controls very little of the impervious land area that would have to be treated to achieve the backstop phosphorus allocation. The remaining reductions would have to be achieved with retrofits on private land. Since the County cannot force private land owners to retrofit in the absence of redevelopment requiring local land use approvals, the County would have to negotiate for the purchase of the land needed for the easements or acquire the land by condemnation. Land acquisition is an expensive and time consuming process that will add greatly to the cost and time required to achieve the reductions.

Henrico County encourages Virginia to respond to EPA's backstop allocations by revising its WIP to include the additional commitments needed to demonstrate to EPA that the Commonwealth can achieve the draft WIP allocations for the agriculture and onsite septic systems sectors. Such a demonstration would remove the backstop allocations and allow Virginia to distribute a portion of the allocations now assigned to the agriculture.

The County recognizes the need to assign some portion of the additional allocations to the point source sector to accommodate long-term growth and to generate credits. However, as explained above, the allocations in the draft WIP placed too much reliance on credits to offset the consequences of the small allocations to the urban runoff sector and did not reflect a cost-effective and equitable distribution among the two sectors.

IV. CONCLUSIONS AND RECOMMENDATIONS

The Model results that are the basis for the proposed allocations are clearly lacking in the level of precision and certainty required to justify the resulting billions of dollars in costs. EPA professes to be taking an *adaptive management approach* to the TMDLs; but in reality, EPA is taking a *legal and regulatory approach* to the TMDLs by establishing the TMDLs based on incomplete and flawed science and then seeking to supply the missing documentation after the fact.

If EPA is truly committed to an adaptive management approach to the TMDLs, it would adopt them based upon the allocations in the Tributary Strategies and then update the TMDLs when the Phase 5.3 CBWM is fully transparent, developed and calibrated to within an acceptable margin of uncertainty. No time would be lost if EPA's accountability framework remains in place to ensure that progress toward achieving the Tributary Strategy allocations continues while work on the Phase 5.3 CBWM and model inputs are underway. In fact, the approach we recommend likely would achieve our mutual water quality goals for the Bay more efficiently,

cost-effectively, and quickly by fostering the federal, state, and local partnership that is so critical to an undertaking of this magnitude. EPA's slavish adherence to an artificial deadline for establishing the TMDLs and its heavy-handed and opaque approach to date serves only to undermine that partnership and create distrust and resistance on the part of those who will bear the burden.

For further information, please contact Benjamin A. Thorp, Assistant County Attorney at (804) 501-4337 or tho18@co.henrico.va.us.

Sincerely,

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County Manager

c: Mr. Alan Pollock, VA DEQ (alan.pollock@deq.virginia.gov)
Mr. Russ Perkinson, VA DCR (russ.perkinson@dcr.virginia.gov)